433480_1

SEQUENCE LISTING

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Page 1

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tcatgcatgg gctctatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg  1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga  1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat  1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                     1182
```

<210> 12
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 12
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatgc   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg  1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga  1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat  1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                     1182
```

<210> 13
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 13
```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgcttccc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 14
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 14
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacggtt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 15
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 15

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactacat atgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
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<210> 16
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 16

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgctcg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 17
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 17

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
```

```
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg      120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca      180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct      240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag      300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag      360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc      420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg      480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag      540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac      600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat      660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt      720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc      780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc      840
gatcgccgga ccaaggagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca      900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag      960
aaaccttttgg acggagaata tttcacccttt cagatccgtg gccgtgagcg gttcgagatg     1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga     1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat     1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                         1182
```

<210> 18
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 18
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg      120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca      180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct      240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag      300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag      360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc      420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg      480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag      540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac      600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat      660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt      720
tcatgcatgg gagacatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc      780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc      840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca      900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag      960
aaaccttttgg acggagaata tttcacccttt cagatccgtg gccgtgagcg gttcgagatg     1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga     1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat     1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                         1182
```

<210> 19
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 19
```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg      120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca      180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct      240
```

```
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccgtgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 20
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 20

```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttTca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctgca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg  1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga  1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat  1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                     1182
```

<210> 21
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 21

```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttTca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
```

```
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg      480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag      540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac      600
ctacgcgtgg agtgcctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat      660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt      720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc      780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc      840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca      900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag      960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg     1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga     1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat     1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 22
<211> 1181
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 22

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tggaagaacc acagtcagat cctagcgtcg aaccacctct gagtcaggaa accttttcag       60
acctgtggaa attgcttcct gaaaacaacg ttctgtcccc attgcctagt caagcaatgg      120
atgatttgat gctgtcccca gacgatattg aacaatggtt cactgaagat ccaggcccag      180
atgaagctcc acgaatgcca gaggccgctc caccggttgc cccagcacca gcagctccta      240
caccggcggc cccagctccg gccccatcct ggcctctgtc atcttctgtc ccttcccaga      300
aaaacctacca gggcagctac ggtttccgtc tgggcttctt gcattctgga actgccaagt      360
ctgttacttg tacgtactct ccagcccotta acaagatgtt ttgccaactc gcgaagacct      420
gcccagtcca actgtgggtc gactccaccc ctccacctgg tacacgtgtc ctcgcgatgg      480
ccatctacaa gcagagccag cacatgacgg aggtcgtacg acgctgtcca caccatgagc      540
gctgctcaga ttctgatggt ctggcgccac cacagcatct tatccgagtg gaaggtaacc      600
tacgcgtgga gtatctagat gaccgcaaca cttttcgaca cagtgtggtg gtgccatatg      660
agccaccaga agttggctct gactgcacca ccatccacta caactatatg tgtaacagtt      720
catgcatggg cggcatgaac cggcggccga tcctgaccat catcactctc gaggattcct      780
caggtaatct cctaggacgg aattcctttg aggtgcgtgt ttgtgcatgc ccgggccgcg      840
atcgccggac cgaagaggag aatctccgga agaaaggtga gcctcaccac gagctgccac      900
caggaagcac taagcgagca ctgccaaaca acaccagcag ttctccacag ccaaagaaga      960
aacctttgga cggagaatat ttcacccttc agatccgtgg ccgtgagcgg ttcgagatgt     1020
tccgagagct gaatgaggcc ttagaactta aggatgccca ggctggtaag gagccaggag     1080
ggcagccgtgc tcatagcagc cacctgaagt ccaaaaaggg tcagtctacc tcccgccata     1140
aaaaactgat gttcaagacc gaaggtcctg actcagactg a                        1181
```

<210> 23
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 23

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca       60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg      120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca      180
gatgaagctc acgaatgcca gaggccgctc caccggttg ccccagcacc agcagctcct      240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag      300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag      360
tctgttactt gtacgtactc tccagccctt aacaagatgt ttgccaact cgcgaagacc      420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg      480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag      540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac      600
```

```
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
ttctgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 24
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 24

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact gcaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 25
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 25

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gctgcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
```

```
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc      840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca      900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag      960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg     1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga     1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat     1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 26
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 26
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca       60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg      120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca      180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct      240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag      300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag      360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc      420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt gcacgcaatg      480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag      540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac      600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat      660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt      720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc      780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc      840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca      900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag      960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg     1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga     1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat     1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 27
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 27
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca       60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg      120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca      180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct      240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag      300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag      360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc      420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg      480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag      540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac      600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat      660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt      720
tcatgcatgg gcggcatgaa cctgaggccg atcctgacca tcatcactct cgaggattcc      780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc      840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca      900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag      960
```

```
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 28
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 28
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca   60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acactacgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 29
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 29
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca   60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggtacc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
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aaaaaactga tgttcaagac cgaaggtcct gactcagact ga   1182

<210> 30
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 30
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttttca   60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacg tccccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac actttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
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ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcacccttc agatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga   1182

<210> 31
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 31
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttttca   60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacg   420
tacccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac actttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcacccttc agatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga   1182

<210> 32

<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 32

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggatgccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaaccttttgg acggagaata tttcacccttt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctccccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 33
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 33

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cagcggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaaccttttgg acggagaata tttcacccttt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctccccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 34
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 34
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gagatgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg  1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga  1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat  1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                     1182
```

<210> 35
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 35
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaaaagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg  1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga  1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat  1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                     1182
```

<210> 36
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

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<400> 36
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcctgc gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 37
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

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<400> 37
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcgtcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 38
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

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<400> 38
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
```

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gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacggtaccc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 39
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 39

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtacaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 40
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 40

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
```

```
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cctcggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 41
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 41
```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctagagcg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 42
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 42
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
```

```
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggcaaa    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 43
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 43
```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgaa gatctgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 44
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 44
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
```

```
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tccttcgaag gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 45
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 45
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcatgc gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 46
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 46
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttacacgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
```

```
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 47
<211> 1181
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 47
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tggaagaacc acagtcagat cctagcgtcg aaccacctct gagtcaggaa accttttcag      60
acctgtggaa attgcttcct gaaaacaacg ttctgtcccc attgcctagt caagcaatgg     120
atgatttgat gctgtcccca gacgatattg aacaatggtt cactgaagat ccaggcccag     180
atgaagctcc acgaatgcca gaggccgctc caccggttgc cccagcacca gcagctccta     240
caccggcggc cccagctccg gccccatcct ggcctctgtc atcttctgtc ccttcccaga     300
aaacctacca gggcagctac ggtttccgtc tgggcttctt gcattctgga actgccaagt     360
ctgttacttg tacgtactct ccagccctta acaagatgtt ttaccaactc gcgaagacct     420
gcccagtcca actgtgggtc gactccaccc ctccacctgg tacacgtgtc cgcgcaatgg     480
tcatctacaa gcagagccag cacatgacgg aggtcgtacg acgctgtcca caccatgagc     540
cgctgctcaga ttctgatggt ctggcgccac cacagcatct tatccgagtg gaaggtaacc     600
tacgcgtgga gtatctagat gaccgcaaca cttttcgaca cagtgtggtg gtgccatatg     660
agccaccaga agttggctct gactgcacca ccatccacta caactatatg tgtaacagtt     720
catgcatggg cggcatgaac cggcggccga tcctgaccat catcactctc gaggattcct     780
caggtaatct cctaggacgg aattcctttg aggtgcgtgt tgtgcatg ccgggccgcc       840
atcgccggac cgaagaggaa atctccggaa gaaaggtgag cctcaccac gagctgccac      900
caggaagcac taagcgagca ctgccaaaca acaccagcag ttctccacag ccaaagaaga     960
aacctttgga cggagaatat ttcacccttc agatccgtgg ccgtgagcgg ttcgagatgt    1020
tccgagagct gaatgaggcc ttagaactta aggatgccca ggctggtaag gagccaggag    1080
gcagccgtgc tcatagcagc cacctgaagt ccaaaaaggg tcagtctacc tcccgccata    1140
aaaaactgat gttcaagacc gaaggtcctg actcagactg a                       1181
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<210> 48
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 48
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc acgaatgcca gaggccgctc caccggttg ccccagcacc agcagctcct      240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaactca     720
agcttcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
```

```
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 49
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 49

```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttacgcgtg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 50
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 50

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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aaccgcatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
```

aaaaaactga tgttcaagac cgaaggtcct gactcagact ga   1182

<210> 51
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 51
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca    60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccaccgg taacacgtgt ccgcgcaatg   480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac actttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcacccctt cagatccgtg gccgtgagcg gttcgagatg  1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga  1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctccccgccat  1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                1182
```

<210> 52
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 52
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttttca   60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg   120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca   180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct   240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag   300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag   360
tctgttactt gtacgtactc tccagcccctt aacaagatgt tttgccaact cgcgaagacc   420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg   480
acaatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag   540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac   600
ctacgcgtgg agtatctaga tgaccgcaac actttcgac acagtgtggt ggtgccatat   660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt   720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc   780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc   840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca   900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag   960
aaacctttgg acggagaata tttcacccctt cagatccgtg gccgtgagcg gttcgagatg  1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga  1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctccccgccat  1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                1182
```

<210> 53

<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 53
```
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aacctttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat     660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gagcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcacccct cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
```

<210> 54
<211> 393
<212> PRT
<213> Homo sapiens

<400> 54
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Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
1               5                   10                  15
Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu Asn Asn Val Leu
            20                  25                  30
Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Pro Asp
        35                  40                  45
Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
    50                  55                  60
Arg Met Pro Glu Ala Ala Pro Pro Val Ala Pro Ala Pro Ala Ala Pro
65                  70                  75                  80
Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
                85                  90                  95
Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
                100                 105                 110
Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
            115                 120                 125
Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
        130                 135                 140
Leu Trp Val Asp Ser Thr Pro Pro Gly Thr Arg Val Arg Ala Met
145                 150                 155                 160
Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
                165                 170                 175
Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
            180                 185                 190
His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
        195                 200                 205
Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
    210                 215                 220
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Page 26

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Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
225                 230                 235                 240
Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
            245                 250                 255
Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
            260                 265                 270
Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
        275                 280                 285
Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
    290                 295                 300
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
305                 310                 315                 320
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
            325                 330                 335
Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
            340                 345                 350
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
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<210> 55
<211> 393
<212> PRT
<213> Homo sapiens

<400> 55

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Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Pro Asp
        35                  40                  45
Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
    50                  55                  60
Arg Met Pro Glu Ala Ala Pro Arg Val Ala Pro Ala Pro Ala Ala Pro
65                  70                  75                  80
Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
                85                  90                  95
Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
            100                 105                 110
Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
        115                 120                 125
Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
    130                 135                 140
Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met
145                 150                 155                 160
Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
                165                 170                 175
Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
            180                 185                 190
His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
        195                 200                 205
Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
    210                 215                 220
Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
225                 230                 235                 240
Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
            245                 250                 255
Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
            260                 265                 270
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Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
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Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
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Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
305                     310                 315                 320
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
                325                 330                 335
Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
            340                 345                 350
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
        355                 360                 365
Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met
    370                 375                 380
Phe Lys Thr Glu Gly Pro Asp Ser Asp
385                 390
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<210> 56
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<212> PRT
<213> Homo sapiens

<400> 56

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Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Ser Asp
        35                  40                  45
Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
    50                  55                  60
Arg Met Pro Glu Ala Ala Pro Arg Val Ala Pro Ala Pro Ala Ala Pro
65                  70                  75                  80
Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
                85                  90                  95
Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
                100                 105                 110
Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
    115                 120                 125
Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
    130                 135                 140
Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met
145                 150                 155                 160
Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
                165                 170                 175
Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
            180                 185                 190
His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
        195                 200                 205
Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
    210                 215                 220
Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
225                 230                 235                 240
Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
                245                 250                 255
Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
            260                 265                 270
Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
    275                     280                 285
Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
    290                     295                 300
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
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305                    310                    315                    320
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
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                 340                    345                    350
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
                 355                    360                    365
Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met
        370                    375                    380
Phe Lys Thr Glu Gly Pro Asp Ser Asp
385                    390
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<210> 57
<211> 393
<212> PRT
<213> Homo sapiens

<400> 57

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             20                  25                  30
Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Ser Asp
         35                  40                  45
Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
     50                  55                  60
Arg Met Pro Glu Ala Ala Pro Pro Val Ala Pro Ala Pro Ala Ala Pro
 65                  70                  75                  80
Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
                 85                  90                  95
Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
                100                 105                 110
Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
            115                 120                 125
Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
        130                 135                 140
Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met
145                 150                 155                 160
Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
                165                 170                 175
Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
            180                 185                 190
His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
        195                 200                 205
Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
    210                 215                 220
Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
225                 230                 235                 240
Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
                245                 250                 255
Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
            260                 265                 270
Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
        275                 280                 285
Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
    290                 295                 300
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
305                 310                 315                 320
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
                325                 330                 335
Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
            340                 345                 350
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
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                355                 360                 365
Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met
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Phe Lys Thr Glu Gly Pro Asp Ser Asp
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<210> 58
<211> 2629
<212> DNA
<213> Homo sapiens

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<210> 59
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<212> DNA
<213> Homo sapiens

<400> 59
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<211> 2629
<212> DNA
<213> Homo sapiens

<400> 60
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<211> 2629
<212> DNA
<213> Homo sapiens

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aaacattttc agacctatgg aaactacttc ctgaaaacaa cgttctgtcc cccttgccgt      360
cccaagcaat ggatgatttg atgctgtcct cggacgatat tgaacaatgg ttcactgaag      420
acccaggtcc agatgaagc cccagaatgc cagaggctgc tcccccgtg gcccctgcac      480
cagcagctcc tacaccggcg gcccctgcac cagcccctc ctggccctg tcatcttctg      540
tcccttccca gaaaacctac cagggcagct acggtttccg tctgggcttc ttgcattctg      600
ggacagccaa gtctgtgact tgcacgtact cccctgccct caacaagatg ttttgccaac      660
tggccaagac ctgccctgtg cagctgtggg ttgattccac accccgcccc ggcacccgcg      720
tccgcgccat ggccatctac aagcagtcac agcacatgac ggaggttgtg aggcgctgcc      780
cccaccatga gcgctgctca gatagcgatg gtctggcccc tcctcagcat cttatccgag      840
tggaaggaaa tttgcgtgtg gagtatttgg atgacagaaa cacttttcga catagtgtgg      900
tggtgcccta tgagccgcct gaggttggct ctgactgtac caccatccac tacaactaca      960
tgtgtaacag ttcctgcatg ggcggcatga accggaggcc catcctcacc atcatcacac     1020
tggaagactc cagtggtaat ctactgggac ggaacagctt tgaggtgcgt gtttgtgcct     1080
gtcctgggag agaccggcgc acagaggaag agaatctccg caagaaaggg gagcctcacc     1140
acgagctgcc cccagggagc actaagcgag cactgcccaa caacaccagc tcctctcccc     1200
```

```
agccaaagaa gaaaccactg gatggagaat atttcaccct tcagatccgt gggcgtgagc    1260
gcttcgagat gttccgagag ctgaatgagg ccttggaact caaggatgcc caggctggga    1320
aggagccagg ggggagcagg gctcactcca gccacctgaa gtccaaaaag ggtcagtcta    1380
cctcccgcca taaaaaactc atgttcaaga cagaagggcc tgactcagac tgacattctc    1440
cacttcttgt tccccactga cagcctccca cccccatctc tccctccccct gccattttgg    1500
gttttgggtc tttgaaccct tgcttgcaat aggtgtgcgt cagaagcacc caggacttcc    1560
atttgctttg tcccgggggct ccactgaaca agttggcctg cactggtgtt ttgttgtggg    1620
gaggaggatg gggagtagga cataccagct tagattttaa ggttttttact gtgagggatg    1680
tttgggagat gtaagaaatg ttcttgcagt taagggttag tttacaatca gccacattct    1740
aggtaggtag gggcccactt caccgtacta accagggaag ctgtccctca tgttgaattt    1800
tctctaactt caaggcccat atctgtgaaa tgctggcatt tgcacctacc tcacagagtg    1860
cattgtgagg gttaatgaaa taatgtacat ctggccttga aaccacccttt tattacatgg    1920
ggtctaaaac ttgaccccct tgagggtgcc tgttccctct ccctctccct gttggctggt    1980
gggttggtag tttctacagt tgggcagctg gttaggtaga gggagttgtc aagtcttgct    2040
ggcccagcca aaccctgtct gacaacctct tggtcgacct tagtacctaa aaggaaatct    2100
caccccatcc cacaccctgg aggatttcat ctcttgtata tgatgatctg gatccaccaa    2160
gacttgtttt atgctcaggg tcaatttctt ttttctttttt tttttttttt tttcttttttc    2220
tttgagactg ggtctcgctt tgttgcccag gctggagtgg agtggcgtga tcttggctta    2280
ctgcagcctt tgcctccccg gctcgagcag tcctgcctca gcctccggag tagctgggac    2340
cacaggttca tgccaccatg gccagccaac ttttgcatgt tttgtagaga tggggtctca    2400
cagtgttgcc caggctggtc tcaaactcct gggctcaggc gatccacctg tctcagcctc    2460
ccagagtgct gggattacaa ttgtgagcca ccacgtggag ctggaagggt caacatcttt    2520
tacattctgc aagcacatct gcattttcac cccacccttc ccctccttct ccctttttat    2580
atcccatttt tatatcgatc tcttatttta caataaaact ttgctgcca              2629
```

<210> 62
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 62
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atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca     60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgtcccc agacgatatt gaacaatggt tcactgaaga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccacgcgttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcacccttt cagatccgtg ccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

<210> 63
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

```
<400> 63
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcctc ggacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccacgcgttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac actttcgac acagtgtggt ggtgccatat      660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
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```
<210> 64
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 64
atggaagaac cacagtcaga tcctagcgtc gaaccacctc tgagtcagga aaccttttca      60
gacctgtgga aattgcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
gatgatttga tgctgtcctc ggacgatatt gaacaatggt tcactgaaga tccaggccca     180
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag     300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag     360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc     420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg     480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag     540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac     600
ctacgcgtgg agtatctaga tgaccgcaac actttcgac acagtgtggt ggtgccatat      660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt     720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc     780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc     840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca     900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag     960
aaacctttgg acggagaata tttcaccctt cagatccgtg gccgtgagcg gttcgagatg    1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga    1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat    1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                       1182
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<210> 65
<211> 1182
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 65
atggaagaac cacagtcaga tcctagcgtc gaaccacccc tgagtcagga aaccttttca      60
gatctgtgga agcttcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg     120
```

```
gatgaagctc cacgaatgcc agaggccgct ccaccggttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacaccagca gttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcacccct cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccgtg ctcatagcag ccacctgaag tccaaaaagg gtcagtctac ctcccgccat   1140
aaaaaactga tgttcaagac cgaaggtcct gactcagact ga                      1182
```

```
<210> 68
<211> 1181
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 68
atggaagaac cacagtcaga tcctagcgtc gaaccacccc tgagtcagga aaccttttca     60
gatctgtgga agcttcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgagccc agacgatatt gaacaatggt tcactgagga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccacgcgttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagcccct aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacacgagct cttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctg cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccggg cccattcgtc tcacctgaag tccaaaaagg gtcagtctac tagtcgccat   1140
aaaaaactga gttcaagacc gaaggtcctg actcagactg a                       1181
```

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<210> 69
<211> 1181
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 69
atggaagaac cacagtcaga tcctagcgtc gaaccacccc tgagtcagga aaccttttca     60
gatctgtgga agcttcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgagctc ggacgatatt gaacaatggt tcactgagga tccaggccca    180
gatgaagctc cacgaatgcc agaggccgct ccacgcgttg ccccagcacc agcagctcct    240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
```

```
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacacgagct cttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctg cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccggg cccattcgtc tcacctgaag tccaaaaagg gtcagtctac tagtcgccat   1140
aaaaaactga gttcaagacc gaaggtcctg actcagactg a                       1181
```

<210> 70
<211> 1181
<212> DNA
<213> Artificial Sequence

<220>
<223> Produced by genetic engineering

<400> 70
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atggaagaac cacagtcaga tcctagcgtc gaaccacccc tgagtcagga aacctttca     60
gatctgtgga agcttcttcc tgaaaacaac gttctgtccc cattgcctag tcaagcaatg    120
gatgatttga tgctgagccc agacgatatt gaacaatggt tcactgagga tccaggccca    180
gatgaagctc acgaatgcc agaggccgct ccacgcgttg ccccagcacc agcagctcct     240
acaccggcgg ccccagctcc ggccccatcc tggcctctgt catcttctgt cccttcccag    300
aaaacctacc agggcagcta cggtttccgt ctgggcttct tgcattctgg aactgccaag    360
tctgttactt gtacgtactc tccagccctt aacaagatgt tttgccaact cgcgaagacc    420
tgcccagtcc aactgtgggt cgactccacc cctccacctg gtacacgtgt ccgcgcaatg    480
gccatctaca agcagagcca gcacatgacg gaggtcgtac gacgctgtcc acaccatgag    540
cgctgctcag attctgatgg tctggcgcca ccacagcatc ttatccgagt ggaaggtaac    600
ctacgcgtgg agtatctaga tgaccgcaac acttttcgac acagtgtggt ggtgccatat    660
gagccaccag aagttggctc tgactgcacc accatccact acaactatat gtgtaacagt    720
tcatgcatgg gcggcatgaa ccggcggccg atcctgacca tcatcactct cgaggattcc    780
tcaggtaatc tcctaggacg gaattccttt gaggtgcgtg tttgtgcatg cccgggccgc    840
gatcgccgga ccgaagagga gaatctccgg aagaaaggtg agcctcacca cgagctgcca    900
ccaggaagca ctaagcgagc actgccaaac aacacgagct cttctccaca gccaaagaag    960
aaacctttgg acggagaata tttcaccctg cagatccgtg gccgtgagcg gttcgagatg   1020
ttccgagagc tgaatgaggc cttagaactt aaggatgccc aggctggtaa ggagccagga   1080
ggcagccggg cccattcgtc tcacctgaag tccaaaaagg gtcagtctac tagtcgccat   1140
aaaaaactga gttcaagacc gaaggtcctg actcagactg a                       1181
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<210> 71
<211> 1179
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(1179)

<221> misc_feature
<222> (1)...(1179)
<223> n = A,T,C or G

<400> 71
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atg gar gar ccn car nnn gay ccn nnn gtn gar ccn ccn ytn nnn car      48
Met Glu Glu Pro Gln Ser Asp Pro Ser Val Glu Pro Pro Leu Ser Gln
 1               5                  10                  15
```

```
gar acn tty nnn gay ytn tgg aar ytn ytn ccn gar aay aay gtn ytn        96
Glu Thr Phe Ser Asp Leu Trp Lys Leu Leu Pro Glu Asn Asn Val Leu
        20              25              30

nnn ccn ytn ccn nnn car gcn atg gay gay ytn atg ytn nnn ccn gay       144
Ser Pro Leu Pro Ser Gln Ala Met Asp Asp Leu Met Leu Ser Pro Asp
        35              40              45

gay ath gar car tgg tty acn gar gay ccn ggn ccn gay gar gcn ccn       192
Asp Ile Glu Gln Trp Phe Thr Glu Asp Pro Gly Pro Asp Glu Ala Pro
        50              55              60

nnn atg ccn gar gcn gcn ccn ccn gtn gcn ccn gcn ccn gcn gcn ccn       240
Arg Met Pro Glu Ala Ala Pro Pro Val Ala Pro Ala Pro Ala Ala Pro
65              70              75              80

acn ccn gcn gcn ccn gcn ccn gcn ccn nnn tgg ccn ytn nnn nnn nnn       288
Thr Pro Ala Ala Pro Ala Pro Ala Pro Ser Trp Pro Leu Ser Ser Ser
                85              90              95

gtn ccn nnn car aar acn tay car ggn nnn tay ggn tty nnn ytn ggn       336
Val Pro Ser Gln Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu Gly
            100             105             110

tty ytn cay nnn ggn acn gcn aar nnn gtn acn tgy acn tay nnn ccn       384
Phe Leu His Ser Gly Thr Ala Lys Ser Val Thr Cys Thr Tyr Ser Pro
            115             120             125

gcn ytn aay aar atg tty tgy car ytn gcn aar acn tgy ccn gtn car       432
Ala Leu Asn Lys Met Phe Cys Gln Leu Ala Lys Thr Cys Pro Val Gln
        130             135             140

ytn tgg gtn gay nnn acn ccn ccn ccn ggn acn nnn gtn nnn gcn atg       480
Leu Trp Val Asp Ser Thr Pro Pro Pro Gly Thr Arg Val Arg Ala Met
145             150             155             160

gcn ath tay aar car nnn car cay atg acn gar gtn gtn nnn nnn tgy       528
Ala Ile Tyr Lys Gln Ser Gln His Met Thr Glu Val Val Arg Arg Cys
            165             170             175

ccn cay cay gar nnn tgy nnn gay nnn gay ggn ytn gcn ccn ccn car       576
Pro His His Glu Arg Cys Ser Asp Ser Asp Gly Leu Ala Pro Pro Gln
            180             185             190

cay ytn ath nnn gtn gar ggn aay ytn nnn gtn gar tay ytn gay gay       624
His Leu Ile Arg Val Glu Gly Asn Leu Arg Val Glu Tyr Leu Asp Asp
            195             200             205

nnn aay acn tty nnn cay nnn gtn gtn gtn ccn tay gar ccn ccn gar       672
Arg Asn Thr Phe Arg His Ser Val Val Val Pro Tyr Glu Pro Pro Glu
        210             215             220

gtn ggn nnn gay tgy acn acn ath cay tay aay tay atg tgy aay nnn       720
Val Gly Ser Asp Cys Thr Thr Ile His Tyr Asn Tyr Met Cys Asn Ser
225             230             235             240

nnn tgy atg ggn ggn atg aay nnn nnn ccn ath ytn acn ath ath acn       768
Ser Cys Met Gly Gly Met Asn Arg Arg Pro Ile Leu Thr Ile Ile Thr
            245             250             255

ytn gar gay nnn nnn ggn aay ytn ytn ggn nnn aay nnn tty gar gtn       816
Leu Glu Asp Ser Ser Gly Asn Leu Leu Gly Arg Asn Ser Phe Glu Val
            260             265             270
```

```
nnn gtn tgy gcn tgy ccn ggn nnn gay nnn nnn acn gar gar gar aay      864
Arg Val Cys Ala Cys Pro Gly Arg Asp Arg Arg Thr Glu Glu Glu Asn
        275         280             285

ytn nnn aar aar ggn gar ccn cay cay gar ytn ccn ccn ggn nnn acn      912
Leu Arg Lys Lys Gly Glu Pro His His Glu Leu Pro Pro Gly Ser Thr
    290             295             300

aar nnn gcn ytn ccn aay aay acn nnn nnn nnn ccn car ccn aar aar      960
Lys Arg Ala Leu Pro Asn Asn Thr Ser Ser Ser Pro Gln Pro Lys Lys
305             310             315             320

aar ccn ytn gay ggn gar tay tty acn ytn car ath nnn ggn nnn gar     1008
Lys Pro Leu Asp Gly Glu Tyr Phe Thr Leu Gln Ile Arg Gly Arg Glu
            325             330             335

nnn tty gar atg tty nnn gar ytn aay gar gcn ytn gar ytn aar gay     1056
Arg Phe Glu Met Phe Arg Glu Leu Asn Glu Ala Leu Glu Leu Lys Asp
            340             345             350

gcn car gcn ggn aar gar ccn ggn ggn nnn nnn gcn cay nnn nnn cay     1104
Ala Gln Ala Gly Lys Glu Pro Gly Gly Ser Arg Ala His Ser Ser His
        355             360             365

ytn aar nnn aar aar ggn car nnn acn nnn nnn cay aar aar ytn atg     1152
Leu Lys Ser Lys Lys Gly Gln Ser Thr Ser Arg His Lys Lys Leu Met
    370             375             380

tty aar acn gar ggn ccn gay nnn gay                                 1179
Phe Lys Thr Glu Gly Pro Asp Ser Asp
385             390
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